

AMENDMENTS TO THE CLAIMS

Claims 1-12 (cancelled)

5 Claim 13 (currently amended): A method for manufacturing a heat dissipating power amplifier integrated circuit, the method comprising:

providing a substrate;

providing a heat sink for dissipating heat;

integrally forming a transistor on the substrate, the transistor comprising a

10 collector, a base, and at least an emitter including an enlarged portion
located laterally away from the collector and the base; and

directly connecting the heat sink and the emitter using an emitter electrode.

Claim 14 (original): The method of claim 13 wherein forming the transistor
15 comprises:

disposing a metallization layer on the substrate to form the emitter; and

disposing a second metallization layer to mutually connect emitters.

Claim 15 (original): The method of claim 13 further comprising:
20 electrically grounding the emitter through the emitter electrode and the heat sink.

Claim 16 (original): The method of claim 13 further comprising:
arraying a plurality of transistors and a plurality of emitter electrodes to
25 form a functional device.

Claim 17-20 (cancelled)

30 **Claim 21 (previously presented):** A power amplifier integrated circuit comprising:
 a substrate;
 a transistor disposed on the substrate, the transistor including a collector, a
 base, and an emitter, the emitter including an enlarged portion

located laterally away from the collector and the base;
a heat sink for dissipating heat; and
a flip-chip bump connecting the heat sink and the enlarged portion of the
emitter.

5

Claim 22 (previously presented): The power amplifier integrated circuit of claim 21
wherein the flip-chip bump and the heat sink provide an electrical ground
connection to the emitter.

10 Claim 23 (previously presented): A power amplifier integrated circuit comprising:
a substrate;
a transistor disposed on the substrate, the transistor including a collector, a
base, and an emitter, the emitter including an enlarged portion
located laterally away from the collector and the base;
15 a heat sink for dissipating heat; and
a via connecting the heat sink and the enlarged portion of the emitter, the
via penetrating the substrate at the location of the enlarged portion of
the emitter.

20 Claim 24 (previously presented): The power amplifier integrated circuit of claim 23
wherein the via and the heat sink provide an electrical ground connection to
the emitter.

Claim 25 (previously presented): The power amplifier integrated circuit of claim 21
25 wherein the transistor is integrally formed on the substrate.

Claim 26 (previously presented): The power amplifier integrated circuit of claim 23
wherein the transistor is integrally formed on the substrate.